



# Park-and-Ride Study:

Inventory, Use, and Need

*For the Roanoke and New River Valley regions*

---

## Contents

---

Contents.....	2
Background .....	3
Study Area.....	3
Purpose .....	4
Methodology.....	4
Existing Facilities .....	6
Performance Measures.....	10
Connectivity .....	10
Capacity.....	10
Access.....	13
• Way Finding.....	13
• Bike and Pedestrian Access .....	13
• Vehicle Access .....	13
General Conditions .....	14
Education .....	16
Way finding signs .....	16
Virginia 511 .....	16
RIDE Solutions .....	16
Recommendations .....	18
New and Expanded Facilities: I-81 Exit 140 .....	18
New and Expanded Facilities: I-81 Exit 150 .....	18
New and Expanded Facilities: I-81 Exit 114 .....	18
New and Expanded Facilities: Route 220 at Boones Mill .....	18
General Conditions .....	19
Way finding .....	20

## Background

---

Park-and-ride facilities provide a common location for individuals to transfer from a low-occupancy vehicle to a higher-occupancy vehicle. This can involve transferring to a carpool, vanpool, or to a transit system. Regional park-and-ride lots allow commuters, particularly those who commute out of their community and those who live in rural areas, to park their vehicles at convenient location in order to finish their commute using alternative transportation, such as meeting their carpool partners or using transit. As a result, most park-and-ride lots are oriented toward providing sufficient automobile parking to facilitate ride-sharing and transit. [Reference source of distinction] identifies Park-and-Ride lots as a connection to transit systems and park-and-pool lots are principally for ridesharing (carpooling and vanpooling). For the purposes of this study, the term park-and-ride is used in reference to both kinds of lots.

Park-and-ride facilities can help maximize the efficiency of the transportation system and provide commuting options for travelers. Park-and-ride facilities are an important component of travel demand management (TDM) initiatives and help support transit and ridesharing programs. TDM refers to a collection of activities aimed at managing the demand on transportation facilities by shifting commuters into multi-occupant vehicles and transit or into less congested travel periods, or by removing trips from the road altogether.

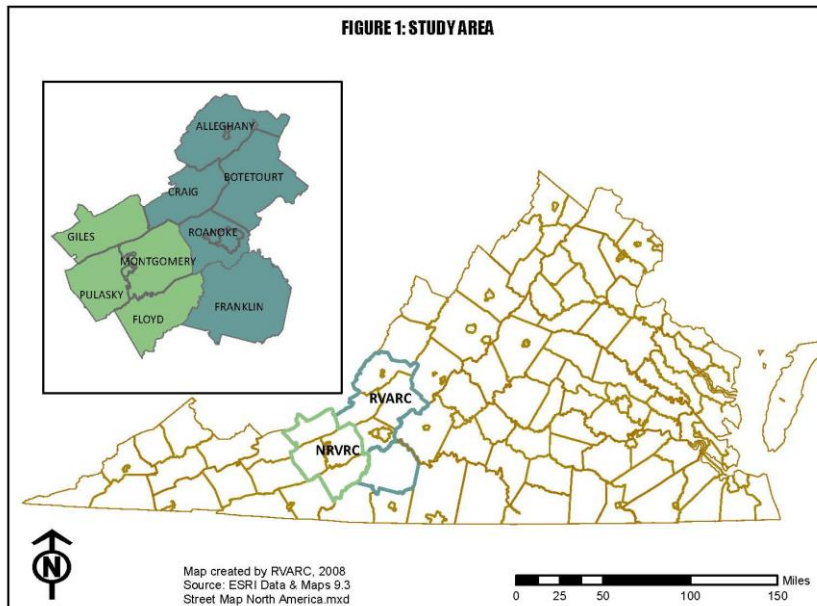
Many park-and-ride lots in the region are official Virginia Department of Transportation (VDOT) maintained lots, but there are several unofficial lots and shared parking lots as well. These are generally parking areas in used rights-of-way and underused parking lots belonging to local businesses or churches who allow commuters to use them during the day.

The most popular use of park-and-ride facilities in the RIDE Solutions service area is carpooling. Carpooling is the easiest and most common form of ridesharing. Carpooling is when two or more commuters ride together in a private automobile on a continuing basis.

## Study Area

The study area for this report covers the Fourth and Fifth Planning Districts and focuses on the primary travel corridors: 1) the Interstate I-81 corridor from mile marker 89 in Pulaski to mile marker 150 in Troutville, 2) US Route 460 in Giles County, 4) Route 100 in Pulaski and Giles County, and 4) US Route 220 in Rocky Mount. The study area can be seen in Figure 1.

Figure 1 (reverse inset and primary images?)



## Purpose

The purpose of this study is to evaluate the existing park-and-ride facilities throughout the region and develop a plan to identify and address existing and future needs and to ensure a continuous and adequate supply of parking for rideshare commuters.

In general this park-and-ride study includes:

1. A detailed inventory of existing official and unofficial park-and-ride lots in the region.
2. Performance measures of each site to determine its effectiveness and usefulness.
3. Recommendations and strategies to improve the connectivity and inventory of park-and-rides in the area.

## Methodology

An occupancy and site survey was conducted at each park-and-ride facility within the study area. The field survey document designed by the RVARC staff was categorized into six performance measures, in order to rate the effectiveness of the lot. These performance measures are described as follows:

1. **Connectivity:** in order to determine how the lot serves commuters, it is important to identify the modes available to commuters to connect to their destinations. These modes can include transit, carpooling, greenways, and designated pedestrian and bicycle access. Connectivity may be improved at the lot by providing bicycle access/accommodations to the facilities (e.g. greenways, complete streets, bicycle storage or racks).
2. **Occupancy:** The occupancy rate is determined based on the existing capacity of the facility (No. of parking spaces) versus the average usage (No. of vehicles parked). It measures the utilization of the lot, and helps to identify potential expansion needs.
3. **Access:** Access measures the effectiveness of finding or identifying the location of the park-and-ride lot while traveling along the corridor served by the facility and the accessibility by cars, bicycles, and pedestrians. It is measure based on wayfinding tools such as signage along the corridor and approaches to the lot.
4. **Amenities:** Amenities are measured by the quantity and quality provided at the park-and-ride lot. At a minimum, a lot is expected to have assistance information such as transit schedules and customer service phone numbers. Lighting, shelters and benches also provide safety and convenience for users. At lots serving only car and vanpoolers, it is common to find the vehicles themselves serve as shelters.
5. **Condition:** The overall condition of the lot and parking surface are rated.
6. **Security:** Features like the lighting in the lot, high visibility from approach roads and general activity in the lot contribute to the perception of security at the facility.

The analysis and results of this data are presented in the following sections of this report. The data was collected by the Roanoke Valley-Alleghany Regional Commission and New River Valley Planning District Commission staff during the month of November 2008. A copy of the survey form is provided in Appendix 1.

## Existing Facilities

[Reference source of distinction] identifies Park-and-Ride lots have a connection to transit and rail systems and park-and-pool lots are principally for ridesharing (carpooling and vanpooling). In the study region, only three facilities are park-and-ride lots by this definition: the lots at I-81 exits 140 and 118C and the Kmart parking lot in Christiansburg, all of which serve as stops for the Smart Way commuter bus. However, because common usage and existing signage in the area identifies all commuter lots as park-and-ride lots and does not distinguish between those with and without transit stops, the term park-and-ride is used in reference to both kinds of lots.

The VDOT classifies the park-and-ride lots into two categories. *Official VDOT Lots* are lots owned or leased by VDOT. *Unofficial Lots* are parking lots that VDOT recognizes as being used for commuter parking, but they are not designed as formal park-and-ride lots.

There are three park-and-ride facilities that connect to transit systems within the study area. Two are on Interstate I-81 and they are considered official VDOT park-and-ride lots, the third, “*Informal*” lot is located at the Christiansburg K-Mart along US Highway 460 BUS. These lots are served by the Smart Way commuter bus.

A total of 19 lots that exclusively serve car and vanpoolers are located throughout the study area. There are seven (7) facilities along Interstate I-81, four of which are *Official VDOT Lots*. Along US Highway 460 in Giles County there are five *unofficial* lots and one *official VDOT lot* at the intersection with route 808. Also, in Giles County along Route 100 there are two lots, one of them being *official*. In Floyd County, along Route 8 there is an *unofficial lot* at the site of a public trash collection area, and in Franklin County off US route 220 there is one *Official VDOT* Park-and-ride lot. Figures 2 and 3 identify the location of facilities, and Table 1 summarizes the inventory of the lots.

**Table 1. Park-and-ride/Pool lots inventory**

Map Location	Name	County	Location	VDOT Category	Classification
1	Tinker Creek Mnt	Botetourt	I-81 Exit 150 Route 220 & Rte 816 Tinker Mountain Road	Official	Park & Pool
2	Orange Market	Roanoke	Route 311 Rte 419, 311, 630 Kessler Mill Road	Unofficial	Park & Pool
3	Hanging Rock	Roanoke	Route 311 Rte 419, 311, 630 Kessler Mill Road	Unofficial	Park & Pool
4	I-81 Exit 140	Roanoke	I-81 Exit 140 Edge Brook Road	Official	Park & Ride
5	Rocky Mount	Franklin	Route 220 & Rte 40	Official	Park & Pool
6	I-81 Exit 128	Montgomery	I-81 Exit 128 Pedlar Road	Official	Park & Pool

Map Location	Name	County	Location	VDOT Category	Classification
7	Falling Branch	Montgomery	I-81 Exit 118C Route 640	Official	Park & Ride
8	I-81 Exit 114	Montgomery	I-81 Exit 114 Route 8	Unofficial	Park & Pool
9	Deli Mart	Montgomery	Riner Rd & Flangan Dr Route 8 & Moose Dr	Unofficial	Park & Pool
10	K-Mart Parking lot	Montgomery	US Highway 460 BUS N Franklin St/Laurel St.	Unofficial	Park & Ride
11	Newport	Giles	Spruce Run & US 460	Unofficial	Park & Pool
12	US 460 & Rte 700	Giles	Mountain Lake Dr & US 460	Unofficial	Park & Pool
13	Maybrook	Giles	Ryan Ln & US 460	Unofficial	Park & Pool
14	US 460 & Rte 808	Giles	Rose Briar Ln & Camper Rd	Official	Park & Pool
15	Tallboy Lot	Giles	US 460 & Rte 61	Not categorized	Park & Pool
16	Foodland	Giles	Route 460 & Rte 219	Not categorized	Park & Pool
17	Bane	Giles	Bane Rd & Route 100	Unofficial	Park & Pool
18	Staffordsville	Giles	Rte 100 & Rte 660	Official	Park & Pool
19	Marathon Mart	Montgomery	Rte 177 & Mud Pike Rd	Unofficial	Park & Pool
20	I-81 Exit 94	Pulaski	Possum Hollow Rd & Count Pulaski Dr	Official	Park & Pool
21	I-81 Exit 89	Pulaski	Route 100 & Kirby Rd	Unofficial	Park & Pool
22	Trash Collection	Floyd	Rte 8 & Beaver Creek Rd.	Unofficial	Park & Pool

**FIGURE 2: RVARC PARKING LOTS LOCATION MAP**

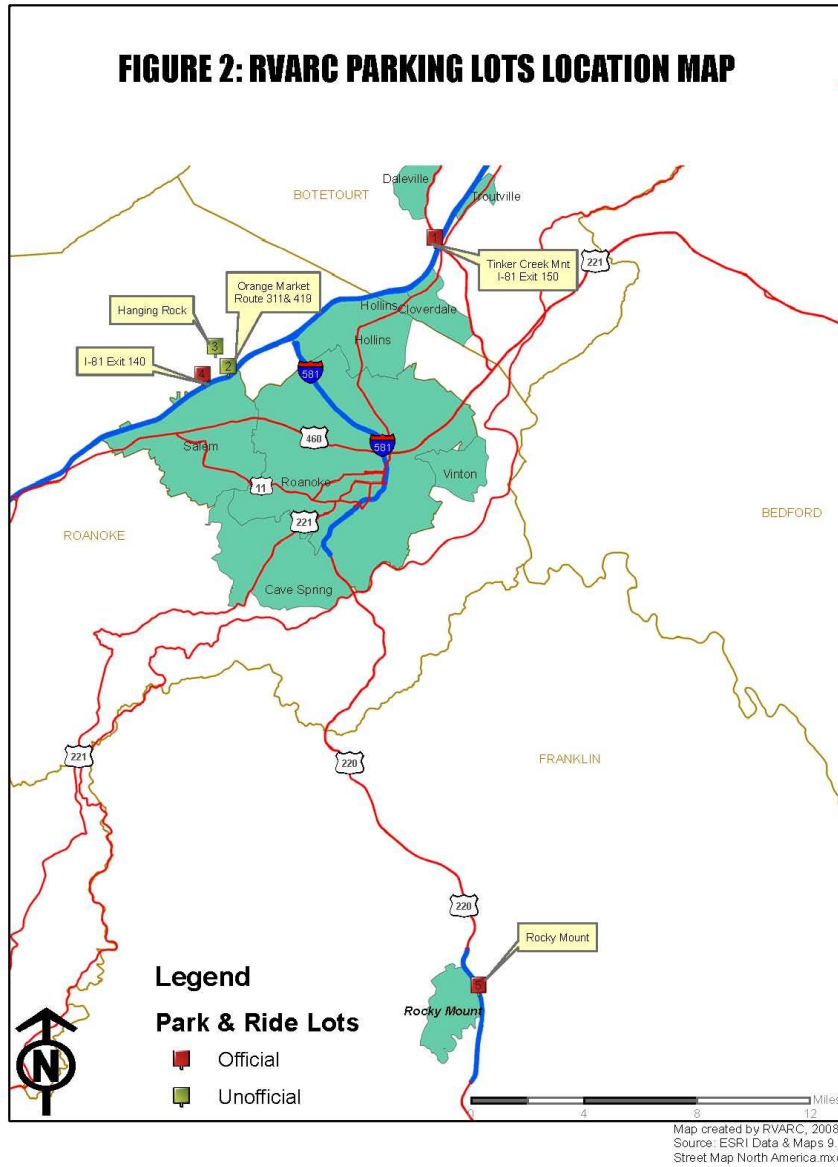


Figure 2



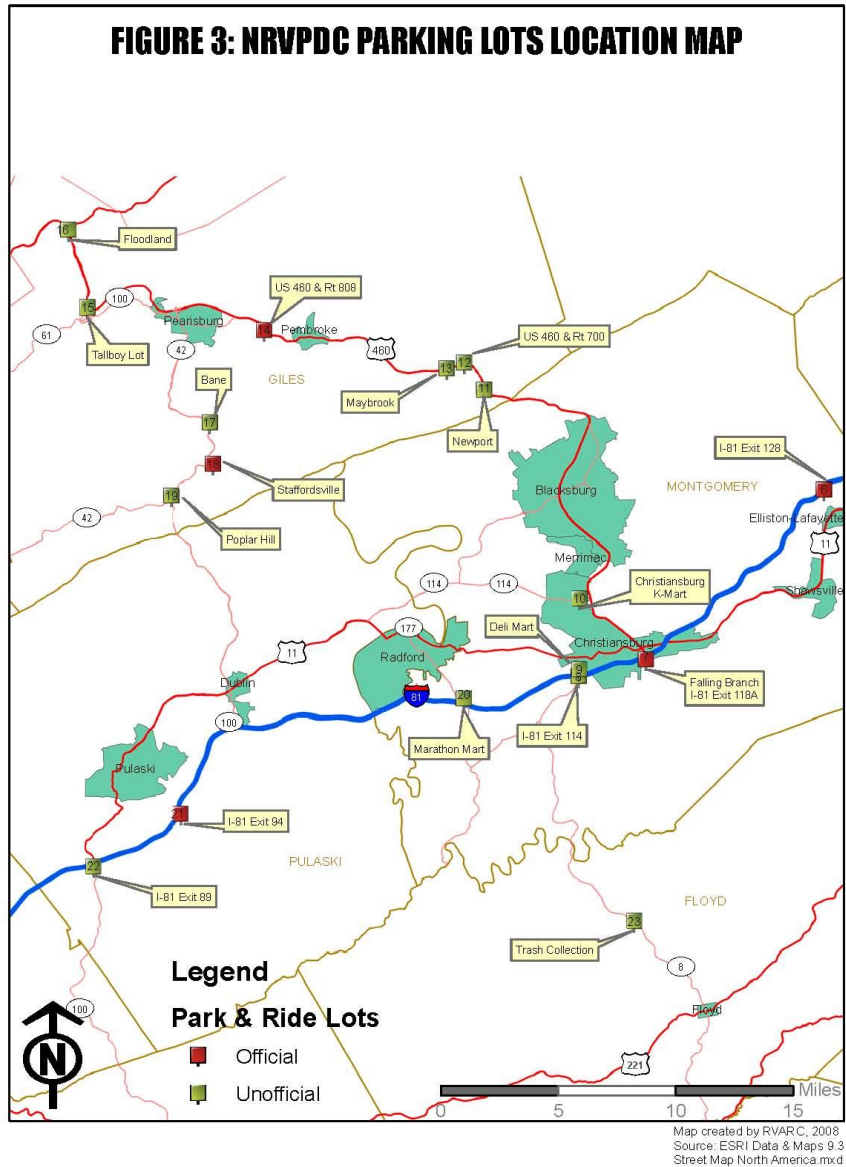


Figure 3

**Commented [CS1]:** Route 42 near Pearisburg is locally referred to as Route 100. #16 is Foodland, typo needs correction

## Performance Measures

---

### Connectivity

Park-and-ride facilities provide direct access to transit service. This service is made available to the region through the Smart Way commuter bus. The Smart Way provides service between the Campbell Court transfer station in downtown Roanoke and Squires Student Center on the Virginia Tech campus. A one-way trip ticket is \$3.00, and a monthly pass providing unlimited rides is \$100. Purchase of a Smart Way ticket or pass provides free transfers onto Valley Metro buses. All the buses are wheelchair lift-equipped.

This service offers 12 round trips each weekday between 5:15 am and 6:50 pm, and a special evening service on Fridays and Saturdays at 8:20 pm. The route runs along US highway 460, I-81 corridor and I-581. The Smart Way provides connection to the Roanoke Regional Airport approximately every two hours during its hours of operation. The Smart Way bus serves the regional commuters by providing regular stops at three park-and-ride facilities along the corridor, including I-81 Exit 140 official park-and-ride, I-81 Exit 118 Falling Branch lot, and K-mart parking lot in Christiansburg.

The K-mart parking lot in Christiansburg is also served by Blacksburg Transit's Two-Town Trolley, a bus connecting 18 stops between Christiansburg and the Virginia Tech campus. This route is operated year-round from noon to 6 p.m. seven days a week. Fares are \$.50 a ride or \$8.00 for a monthly pass; Virginia Tech faculty, staff, and students ride free with ID, and elderly and disabled can ride for half fare. Blacksburg Transit is in the planning stages of expanding service and hours that would affect this park-and-ride stop.

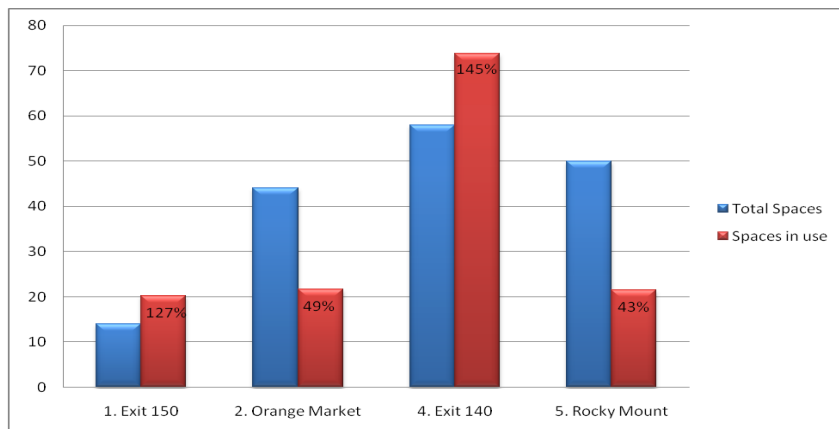
The remaining lots serve carpoolers. However, higher standards in connectivity can also be achieved when users can access the lot by foot or by bicycle. The Orange Market and Hanging Rock parking lots are accessible by the Hanging Rock Greenway, though bicycle racks or locking station should be provided so users can feel comfortable leaving their bicycles during the day. The Rocky Mount park-and-ride on Route 200 South was also observed to have a bicycle parked on premises on several of the surveys.

### Capacity

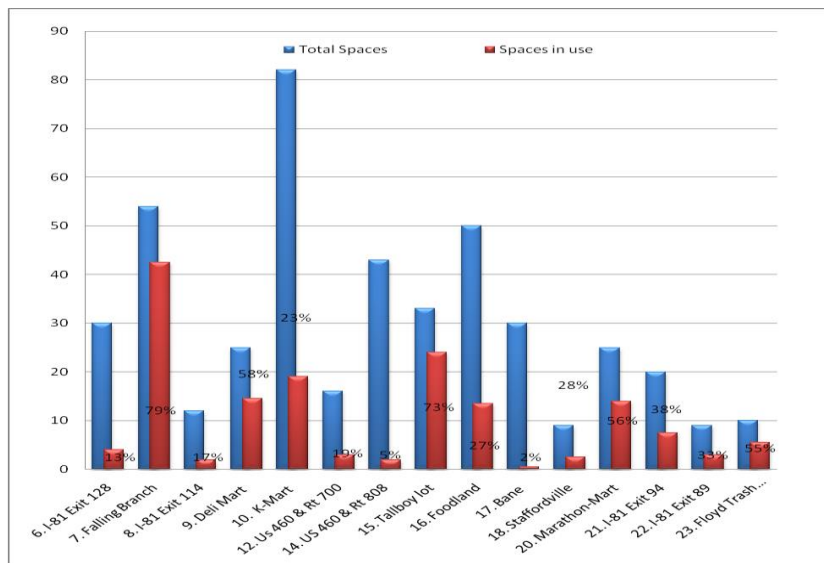
The occupancy of the parking lots was inventoried four times during the month of November, by the staff of NRVPCD and RVARC. The data was collected during regular working days (Mondays and Fridays) between the hours of 10:00 AM and 2:00 PM. Figures 4 and 5 show the utilization data for the parking lots located in the Roanoke Valley and Allegheny region and the New River Valley respectively. Of the lots, two are operating at over capacity (all spaces taken, cars parked on grass areas or shoulders). Five lots are heavily used, between 50% and 80% full,

and 12 lots are underused, or at less than 50% occupancy at midday. Usage was determined by averaging the number of vehicles parked in the lot during each of the field surveys.

**Figure 4: Average Parking Lot Usage RVARC**



**Figure 5: Average Parking Lot Usage NRVPC**



The existing lots at overflow are located along Interstate I-81 on Exits 150 and 140. These facilities had been analyzed in previous park-and-ride studies for the region. By comparing these results with the data from the previous park-and-ride studies (2005 and 2003) prepared by the RVARC (Table 2) , we found that though the deficit in parking spaces at Exit 150 continues, it has declined by 17 users since 2005, and 10 users since 2003. This kind of change in usage requires special attention since it could be a consequence of the inefficiency of the lot, making the users either look for an alternative parking lot or simply changing the carpooling habits. On the other hand, at the park-and-ride Exit 140 the usage has increased by 26 in the last 3 years, and by 24 users since 2003. These results reflect the popularity of this park-and-ride due to the Smart Way service available to the users of the lot.

**Table 2: Existing Parking Lot Capacity Deficits**

Location	Existing Utilization			Utilization 2005		Utilization 2003	
	Existing Capacity	Existing Use	Existing Deficit	Average Usage	Deficit	Average Usage	Deficit
I-81 Exit 150	14	20	6	37	23	30	16
I-81 Exit 140	58	74	16	48	N/A	50	N/A

In both cases of capacity deficit, it can be assumed that some opportunity for additional transit ridership or carpool activity is being lost. In the case of Exit 150, it would appear that not only does the lot remain at overcapacity, but user confidence in the availability of the lot had dropped. In either case, the lost opportunity could result in a negative impact on long-term TDM behavior change, since rebuilding the confidence of users will be difficult.

The park-and-ride location at I-81, Exit 114 was functioning at 37% capacity when surveyed. This represents a moderate use of 12 possible parking spaces. However, all 12 spaces are on the shoulder of Route 8 within 100 yards of the interchange. The site is highly visible and accessible, but the location also poses a safety issue for its users and passing vehicles. Within a quarter mile west of the interchange a vacant lot has turned into an unofficial park-and-ride functioning at 58% capacity. This suggests a high motivation to carpool on the part of users at this location.

While the remaining park-and-ride lots are functioning well within capacity, it should be noted that a number of them are unofficial lots on private property. The Foodland parking lot has been a locally well-known park-and-ride lot in Giles County. Signs have recently been posted (insert photo?) expressly stating the lots is for customers only. The Tallboy lot, three miles east on Route 460, was not identified in earlier park-and-ride studies completed in the New River Valley. The high use of the this unofficial park-and-ride could be a migration of carpooling commuters using Route 460.

The vicinity of each I-81 interchange should be considered for development of official park-and-ride facilities. Given the planned I-81 improvements, now is the time to consider/explore these possibilities so that funding for facility development can be programmed into the I-81 projects.

## Access

- **Way Finding**

On Interstate I-81 approaching exits 140, 128, 118 and 94, there are Commuter Information signs with the telephone number for the TDM program. Also, signs are found on Route 100 approaching the Staffordsville lot, and on Route 460 approaching Route 808.

Park-and-ride Signs leading to the lots can be found at the following locations only:

- Lee Highway leading to Tinker Creek Mnt Lot
- Exit 128 (from Interstate 81 northbound lanes)
- Exit 94 (from Interstate 81 southbound lanes)
- Staffordsville (from Route 100 northbound lanes)

- **Bike and Pedestrian Access**

Considering that the majority of park-and-ride lots are located along the interstate system, it is unsurprising to find few accessible facilities for pedestrians or bicyclists to the lots. The lot at exit 140 can be accessed by bicycle on Route 311, and other secondary roads. Although bicycle traffic is low, riders on the Smart Way have been observed to bring their bicycles on board the bus – particularly on routes coming to Roanoke from Blacksburg – and this could indicate an opportunity for more multimodal options.

Lots located on route 311, Hanging Rock and Route 419 can be directly accessed from the Hanging Rock Battlefield Greenway trail in Salem. Bicycle racks and other pedestrian and cycling facilities are critical factors in the means of generating new ridership demographics in the area, and should be taken into consideration in the planning of new facilities. Park-and-ride facilities can be more effective in reducing single-occupant vehicle commuting when designed to accommodate a multimodal share of users.

- **Vehicle Access**

In general, vehicle access to the parking lots is very good, since they are located along state and national highways. The region of southwest Virginia does not experience many problems with traffic congestion that could turn into travel delays for commuters. However, given the high volume of truck movement along I-81, safety on the road has been a local issue. Carpooling becomes a good alternative to increase security on the

roads by reducing congestion and helping drivers to stay more alert when traveling with company.

## General Conditions

The conditions survey covered amenities available, security, lighting, visibility, general activity in the lots and pavement conditions. The observations present information on why the lots may be underused. Most of the lots lack the majority of surveyed amenities such as public phones, benches, shelters, information signs, or even trash receptacles. The unofficial lots associated with convenience stores or retail outlets generally have better accommodations, though the accommodations are associated with the retail building and not the lot itself. Out of the lots, nine (about 40%) are lighted. Since most of the lots are located along the interstate or main highways, their activity rates range between moderate to high in most cases. The pavement condition ranked mostly between poor and bad in all locations; only five (20%) of the parking lots present good pavement conditions. It is important to note that in these cases, the poor rating may be a result of mixed-surface lots; for example, in the cases of I-81 Exit 140, I-81 Exit 150, and Rocky Mount, each of these lots have both paved and graveled surfaces. While the paved surfaces might have been in good condition themselves, the presence and usage of the rutted gravel surfaces brought the entire rating down. Table 3 presents the results for the amenities, condition and security survey of each lot.

**Table 3: General Conditions for Park-and-ride Lots**

Name	Amenities	Condition			Security	
		Lot	Pavement	Lighting	Visibility	Activity
Tinker Creek Mnt	2 information signs	Fair	Good	Bad	Fair	High
Orange Market	Lights	Fair	Bad	Poor	Good	High
I-81 Exit 140	- Lights	Fair	Excellent		Good	High
	- 1 Bus Stop					
	- Information Signs					
Rocky Mount	- Trash Receptacles					
Rocky Mount	1 Trash Receptacle	Good	N/A	N/A	Good	Low
I-81 Exit 128	- 1 light	Poor	Poor	Fair	Good	Low
	- 1 Information Sign					
	- 7 lights					
Falling Branch	- 1 Bus Stop with elevated concrete platform	Excellent	Good	Excellent	Excellent	High
	- 2 information signs					
	- Bus schedule					
I-81 Exit 114	None	Good	Poor	Bad	Excellent	High
Deli Mart	- Convenience store	Good	Poor	Bad	Excellent	High
K-Mart Pkn lot	- 4 lights	Good	Good	Excellent	Good	High

Name	Amenities	Condition			Security	
		Lot	Pavement	Lighting	Visibility	Activity
	- 1 Bus stop, sheltered and with benches - Information signs (smart way and B/bug Transit) - 1 trash receptacle					
US 460 & Rte 700	None	Fair	Poor	Bad	Excellent	Low
US 460 & Rte 808	- 1 information Sign - 1 trash receptacle	Good	Poor	Bad	Excellent	Low
Tallboy Lot	- 1 trash receptacle	Fair	Poor	Bad	Excellent	High
Foodland	- 1 Public Phone - 6 Lights	Excellent	Excellent	Excellent	Excellent	Moderate
Bane	- 1 Information Sign - 1 trash receptacle - 3 Picnic tables at wayside	Excellent	Excellent	Bad	Excellent	Low
Staffordsville	- 1 Information sign	Fair	Poor	Bad	Excellent	Moderate
Marathon Mart	- 1 Light - Convenience Store	Good	Poor	Poor	Fair	High
I-81 Exit 94	1 information sign	Good	Bad	Bad	Good	Moderate
I-81 Exit 89	None	Fair	Bad	Bad	Excellent	Moderate
Trash Collection	None	Good	Fair	Bad	Excellent	Moderate

## Education

---

Awareness of existing park-and-ride lots can be cultivated through several existing resources. VDOT's internet resources, the local ridesharing program RIDE Solutions, and way finding and commuter information signs along the area's commuting routes can increase use among commuters and residents using Virginia 511 and RIDE Solutions to plan their trips.

### Way finding signs

Way finding signs along the road are an immediate and localized educational tool as much as they are a simple directional sign. Commuters that have found carpooling partners through means outside of RIDE Solutions or that do not know about the internet resources can still find meeting points based on the signs they've seen on their commutes. The knowledge that a park-and-ride exists can be one more barrier removed in a commuter's willingness to try carpooling.

The blue Commuter Information signs posted by VDOT throughout the area advertise the RIDE Solutions toll-free number. This is another access point to ridesharing resources and education.

### Virginia 511

Virginia 511 is a real-time traffic and weather information available to anyone by simply dialing 5-1-1 from your phone or via web at [www.511virginia.org](http://www.511virginia.org). 511 Virginia is a service of VDOT. The service gives access to a variety of information by regions throughout the state:

- Real-time traffic conditions
- Road conditions and weather
- Route planning
- Commuting alternatives

Among the commuting options, users can access to an interactive map with all the park-and-ride facilities throughout the state, as well as to information about carpooling/vanpooling in your community.

### RIDE Solutions

RIDE Solutions is a regional ridesharing program operated by the Roanoke Valley-Alleghany Regional Commission in cooperation with the New River Valley Planning District Commission. This is a grant-funded program that provides FREE carpool matching services for citizens of the Roanoke and New River Valley regions and surrounding areas within southwestern Virginia. Through Ride Solutions, citizens can find directions to regional park-and-ride lots and



information on alternative modes of transportation. This information is available in printed copies and on the web at <http://www.ridesolutions.org/>.

## Recommendations

---

### New and Expanded Facilities: I-81 Exit 140

I-81 Exit 140 has been identified as exceeding the capacity of the facility. The growth of usage at Exit 140 would appear to coincide with growing transit use over the course of 2008. With that in mind, RIDE Solutions recommends doubling the size of the current Exit 140 lot by paving the existing spillover area. In addition, RIDE Solutions recommends positioning this lot's primary use as a Park-and-Ride for the Smart Way bus through signage and the installation of a solar bus shelter.

To meet the needs of carpoolers and limits of the right-of-way at the exiting Exit 140 lot, RIDE Solutions recommends the addition of a second carpool lot, either at Exit 137 in West Salem or Exit 141 at Route 419. A lot at Route 419 would better connect commuters directly to the primary arterial roadway through the Roanoke Valley than the existing connection at Route 311 at Exit 140. In addition, a park-and-ride facility at Route 419 could connect to future transit service along the 419 corridor.

### New and Expanded Facilities: I-81 Exit 150

I-81 Exit 150 has long required expansion, and given the drop in usage numbers over the 2008 survey period compared to both the 2005 and 2003 numbers, there is some concern that the lack of accommodations may have driven potential users away and encouraged them to remain in their SOV mode. Given the state of the existing lot, it appears unlikely that there is sufficient room to expand the lot to the recommended 40 or 50 spaces. VDOT should consider relocating the lot entirely, and perhaps even consider a space-sharing agreement with one of the businesses immediately north of the existing lot.

### New and Expanded Facilities: I-81 Exit 114

The park-and-ride location at I-81, Exit 114 has been identified as a moderately used location, in spite of the apparent safety issues. This, along with the high use of an informal lot on Route 8 just beyond the interchange, indicates a high motivation to carpool on the part of users at this location. The exit 114 interchange area stands out in terms of need for, and potential benefit from, a formal park-and-ride facility. If highway construction/improvements are undertaken in the vicinity of exit 114, related to either I-81 or Route 8, efforts should be undertaken to include right-of-way and construction funding for development of a park-and-ride facility.

### New and Expanded Facilities: Route 220 at Boones Mill

During the gas price spikes of 2008, one of the fastest-growing commuter segments in the RIDE Solutions database were commuters coming from Rocky Mount and the greater Franklin County area into Roanoke. Commuters in Rocky Mount and farther south are well-served by

the existing Park and Ride at Routes 200 and 40, but commuters farther north have no such facilities. Further, origin points north of Rocky Mount – particularly in the Boones Mill area – are much more varied in the rural area, providing no good meeting spot for commuters until commute routes converge in Boones Mill itself. A Park-and-Ride facility in the Boones Mill area would not only service commuters in the immediate vicinity, but would provide a convenient connection to existing carpools coming north from Rocky Mount.

RIDE Solutions therefore recommends a new Park-and-Ride facility in the Boones Mill region. There is at least one opportunity for a private-public partnership with the Boones Mill Baptist Church just south of the town proper; the lot, with direct access to Route 200, was seen to be largely unused during the day on each of the field work visits to the Rocky Mount lot, and appears to have more than sufficient space to meet existing demand. Barring that, a 50-space lot should be considered by VDOT. In the latter case, VDOT should also consider building a bus shelter, as there is commuter bus service between Roanoke and Rocky Mount, and Boones Mill would likely be one of a very few stops along the route.

## General Conditions

There are some general improvements that could be made at each of the lots:

More frequent emptying of trash receptacles and the addition of recycling bins to each lot. Trash can cause a nuisance when not properly disposed of or permitted to accumulate. Where trash receptacles do exist, better maintenance and frequent trash removal is needed. The addition of trash receptacles and recycling bins at lots currently without them would alleviate the nuisance and improve the appearance of the lot. A lot's appearance can also impact the user's sense of security at a lot. VDOT should also consider working with the localities to add recycling drop-offs at each of its lots, both to provide users who may not have recycling in their localities access to a convenient drop-off location, and to make the lots productive for non-commute-time usage.

Bicycle racks and other facilities are recommended in these lots to encourage more ridership. This is a critical factor in the means of generating new ridership demographics in the area, and should be taken into consideration in the planning of new facilities. Future park-and-ride facilities should be designed to accommodate a multimodal share of users. Where connectivity to greenways and other alternative accommodations are feasible they should be implemented; the Route 311 Park-and-Ride serves as a sterling example of multimodal connectivity.

An information kiosk or other accommodation, not unlike those found at rest stops, should be considered. RIDE Solutions could take on the maintenance of such kiosks. It is entirely possible that users of Park-and-Rides are not aware of existing transportation demand management programs and, if encouraged to participate, might reduce demand to the park-and-ride by finding carpool partners closer to home.

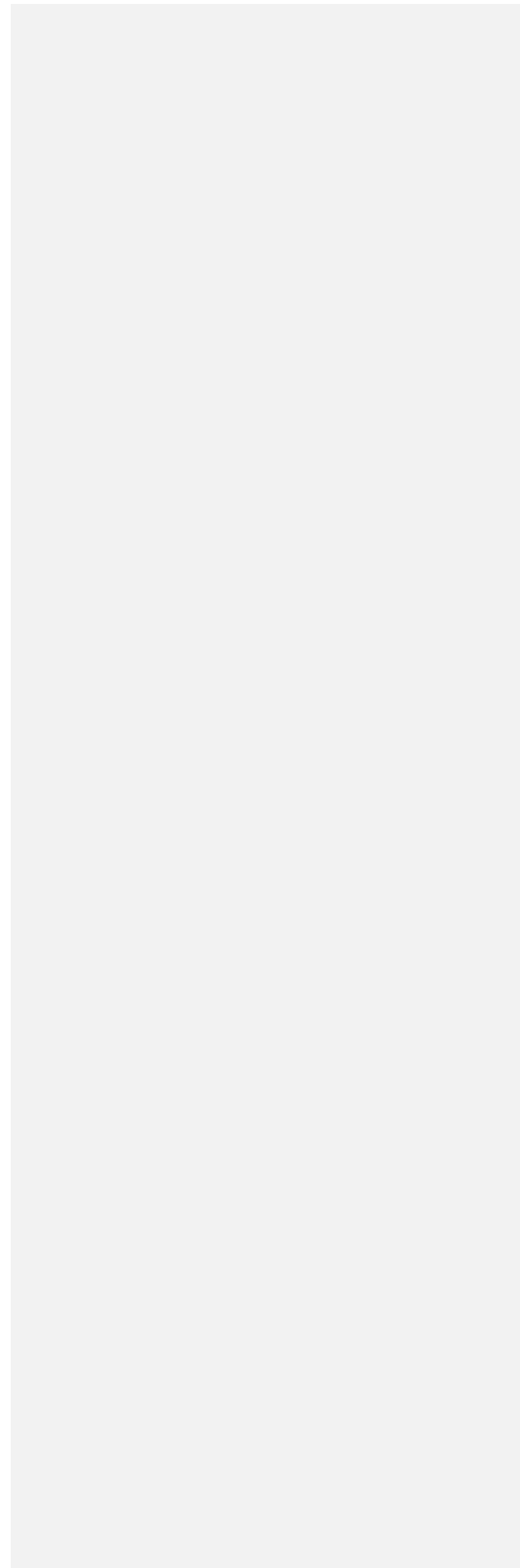
The ratio of official to unofficial lots in the New River Valley is high. Given that so many of those unofficial lots are on private property, future studies should evaluate the need to create formal agreements with existing lot owners to ensure continued availability of the facilities or creating official VDOT facilities where feasible.

### Way finding

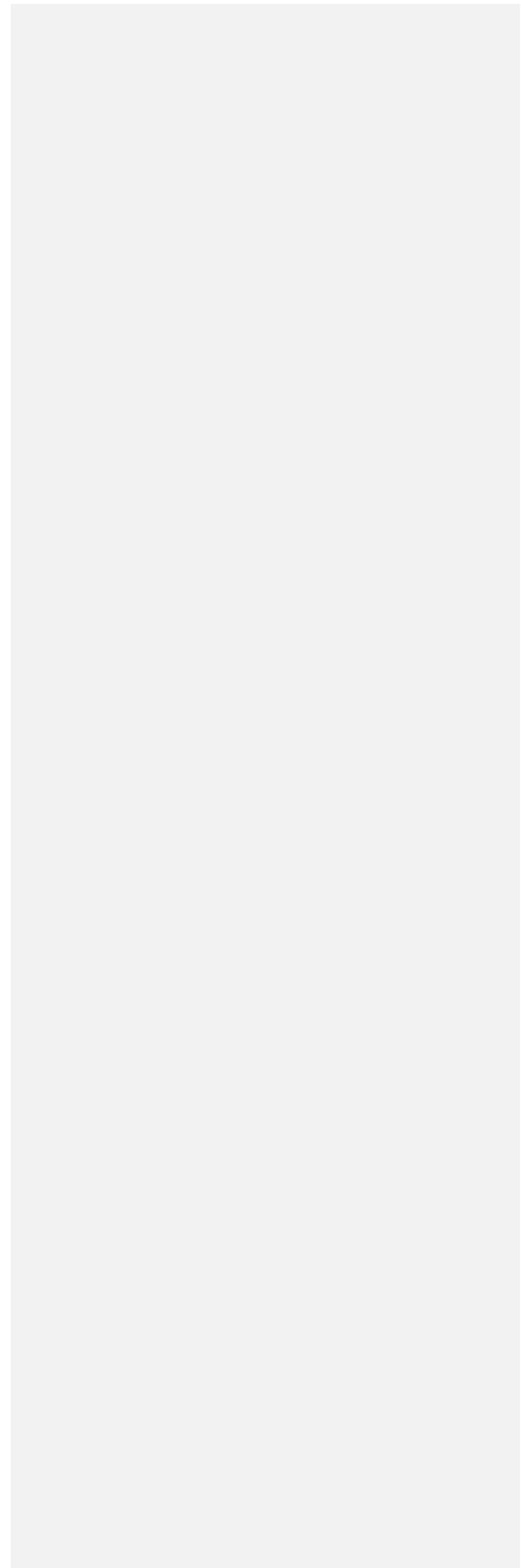
Way finding signs serve a dual purpose. They direct users to the park-and-ride location and they promote the presence of the facility to commuters. Given the informal nature of most park-and-ride lots in the region, installing park-and-ride signs at key intersections and along corridors approaching these facilities would educate commuters to the availability of accessible locations from which to switch their commute mode to a higher-occupancy vehicle.

Lots with the highest usage, excepting those served by the Smart Way bus, are those with a high degree of visibility from the travel corridor (such as Exit 150, Orange Market on Route 311, Rocky Mount off US Route 220, the Tallboy lot on Route 460, Exit 94, Route 8's two locations, the Floyd trash collection site, and the Marathon Mart on Route 177). Signage directing commuters to a less visible, but still easily accessible lot could reasonably increase a lot's usage.

Appendix 1: Sample Park-and-ride Lot Inventory Form



Appendix 2: Photograph inventory of Park-and-ride Lots



Appendix :

Aerial photographs of Park-and-ride Lots

